



A Newsletter from the Connecticut Department of Energy & Environmental Protection
 Exploring Long Island Sound - Issues and Opportunities

SPECIAL ISSUE THEME: Invasions!

What do the British Royal Navy and "rock snot" have in common? Each has invaded Connecticut, that's what! From invasive plant and animal species to erosion, this issue of *Sound Outlook* will examine the various ways in which Connecticut's coast and Long Island Sound are vulnerable to invasive attacks. The year 2012 marks the bicentennial of the War of 1812, and the recounting of that War's siege on Long Island Sound serves as an apt metaphor, and sets the stage for considering the more contemporary attacks that continue to storm our shores and how we can fight back.

**Long Island Sound Invaded!
 The War of 1812 Rocks Connecticut's Coast**

The next time you are enjoying a day at Connecticut's shore, imagine that the sails you see are not those of peaceful pleasure craft, but of a hostile fleet sent to ruin your livelihood and lay waste your home town. Two hundred years ago, it really happened. This year marks the bicentennial of the War of 1812, a conflict that is little appreciated today, but one that wrote a colorful chapter filled with anxiety, drama, and conflict in the history of Long Island Sound.

Except for the Civil War, the second war with Great Britain, declared on June 18, 1812, was the most divisive in American history. Its stated purpose was to combat British interference with American trade, but New England commercial interests, including the Connecticut state government, believed the war would only make a bad situation worse and fervently opposed both the war and the Madison administration. This underlying political conflict helps explain the variable and uneven response of Connecticut



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residents to the naval conflict that soon reached our shores.

British Forces Attack Essex, Connecticut
Source: Connecticut River Museum

While the land war on the Canadian frontier started out (and largely continued) poorly, the naval war began in a blaze of glory for the Nutmeg State when native son Isaac Hull of Derby captained the U.S.S. *Constitution* ("Old Ironsides") in her victory over the British frigate *Guerriere*. Shortly thereafter, a second British frigate, the *Macedonian*, was brought into New London by her captor, the U.S.S. *United States*. However, after refitting in New York, the *United States* and the *Macedonian* (now part of the U.S. Navy), sought to escape to the open sea but were chased back into New London by the British fleet. The inhabitants of New London were then far less welcoming of the Navy's presence than they have been in recent years, and in some cases opposition to the war verged on active sympathy for the British. The two American frigates tried several more times to slip out of the Sound but were always blocked by the British, who had been guided by mysterious blue lights signaled from shore. From that time, the term "Blue Light Federalist" became a standard political insult leveled at President Madison's political opponents.

Nonetheless, the *United States* and *Macedonian* were blockaded in the Thames River for the rest of the war, creating apprehension and resentment on the part of New Londoners who feared a naval attack. The blockading squadron never attempted to assault the city, but it did actively interfere with Connecticut's vital coastal trade and commerce. As the larger British warships loomed menacingly offshore, local sloops and schooners were subject to constant danger of interdiction by boats and small craft from the King's fleet. Navy gunboats from New York as well as Connecticut-based revenue cutters (precursors of the Coast Guard) occasionally convoyed coastal traffic, they could not be everywhere, and many a Connecticut mariner found his vessel and cargo seized and himself detained by British sailors. Indeed, some locals turned the blockade into a business opportunity by selling produce and provisions to the Royal Navy. Others sought to profit from the war in more patriotic fashion, building and fitting out privateers (government-licensed private warships) to prey on British commerce.

The Connecticut River town of Essex, then known as Pettipaug, was a center for building privateers and other vessels, which the British well knew. During the night of April 7, 1814, 136 Royal marines and sailors rowed up the river, guided by an anonymous local who was either coerced, volunteered or bribed into helping, and landed at the current site of the Connecticut River Museum. The raiding party promised to spare the unprepared and defenseless town if they were undisturbed in their burning and plundering, and went about their destructive business. The next night, defying the efforts of the local militia who had belatedly gathered to man riverside batteries and fortifications, the British returned to their ships with minimal casualties and a score of 27 privateers and other vessels burned. While this episode is little known today, it constituted the largest single loss of American shipping during the war. The event has never been forgotten in Essex, though, where each year it is celebrated with a parade, festivities and the lament, "They burned our ships and stole our rum!"

Connecticut's other major engagement of the war took place in August of 1814, when the commander of the British squadron, Sir Thomas M. Hardy, who had been Admiral Lord Nelson's flag captain at the Battle of Trafalgar, issued an

Sound Tips:

Fight Off Invasions!

You can prevent the spread of invasive species in Long Island Sound!

Human activities in and around Long Island Sound can contribute to the spread or introduction of aquatic non-native invasive species. Boaters and anglers should follow the following precautions to prevent the spread of invasive plants and animals:

Before leaving a boat launch:

- Clean all visible plant, fish, and animals as well as mud or other debris. Do not transport them home.
- Drain all water from every space and item that may hold water.

At home or prior to your next launch:

- Dry anything that comes in contact with water (boats, trailers, anchors, propellers, etc.) for a minimum of 1 week during hot/dry weather or a minimum of 4 weeks during cool/wet weather. If drying is not possible, you should clean your boat prior to the next launch.

The techniques listed below are advised to decontaminate your vessel:

- Wash your boat with hot, pressurized water.
- Dip equipment in 100% vinegar for 20 minutes prior to rinsing.

ultimatum to the little port of Stonington to surrender or be destroyed. Thus alerted, the Stonington men sent away their women and valuables, summoned the militia, and improvised a three-gun battery to challenge the overwhelming force facing them. For three days the British ships bombarded Stonington with an estimated 50 tons of explosive shells, solid shot, and rockets, causing some property damage but wounding only one defender. The defenders fired back, hitting some of the ships and repulsing several landing attempts by boatloads of sailors and Marines. Finally, on August 12, the attack was called off and the British ships simply sailed away. As a brief bit of good news in an otherwise calamitous summer for the American cause (the Capitol and White House in Washington, DC would be put to the torch on August 24) the Battle of Stonington was heralded as a triumph of heroism and commemorated in a poem by Philip Freneau. Today, visitors to Cannon Square in Stonington Borough can still see the two 18-pounders that fought off Hardy's men, but it remains unclear why the otherwise gentlemanly Hardy, respected by friend and foe alike, would assault a seemingly harmless village and then fail to press the attack to a conclusion. For an explanation of these mysteries, check out *The Battle of Stonington: Torpedoes, Submarines and Rockets in the War of 1812*, by Stonington author James Tertius deKay.

Unlike the non-human invaders described elsewhere in this issue, the Royal Navy eventually left Long Island Sound--although not before attending a grand ball in New London to celebrate the peace treaty. Their unwelcome incursion demonstrated that, if we want to protect Long Island Sound, we need to be constantly prepared, since it's easier to repel invaders than to avert their destruction after they've gained a foothold. Fortunately, the next set of visiting sails to be seen off New London will be friendly, as [OpSail 2012](#) visits the area in July.

For information on other War of 1812 Bicentennial events and activities, see the website www.ourflagwasstillthere.org, and be sure to read future issues of *Sound Outlook* through 2014.

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SPOTLIGHTED COASTAL RESOURCE: Aliens Are Invading Long Island Sound!

When it comes to certain alien invasions of Long Island Sound, we're not talking about a military invasion from England or an invasion of extra-terrestrials from outer space. We're talking about aggressive non-native or non-indigenous species of plants and animals that have been introduced to Long Island Sound since the arrival of European colonists.

Sometime after the formation of Long Island Sound at the end of the last ice age, when the Great Wisconsin Glacier scraped and gouged out the basin, the melted waters filled and mixed with incoming salt water, drawing-in plants and animals

- Wash with a 1% salt solution (2/3 cup to 5 gallons water) and leave on for 24 hours prior to rinsing.
- "Wet" with bleach solution (1 oz to 1 gallon water) or soap and hot water (Lysol, boat soap, etc.) for 10 minutes prior to rinsing.

When Fishing:

- Do not dump your bait bucket or release live bait! Avoid introducing unwanted plants and animals. Unless your bait was obtained on-site, dispose of it in a suitable trash container or give it to another angler.
- Do not transport fish, other animals or plants between water bodies. Release fish, other animals, and plants only into the waters from which they came.
- Do not dispose of unused bait and packing material into the waters of Long Island Sound (see Connecticut Sea Grant's [Don't Dump Bait fact sheet](#))

Special instructions for rock snot (Didymo):

- Anglers may have contributed to the recent spread of Didymo. The microscopic cells can cling to fishing gear, felt sole waders, boots and boats, and remain viable for months under even slightly moist conditions. So soak/spray and scrub boats and all other "hard" items for at least one minute in either very hot (140°F) water, a 2%

from the surrounding lands and seas. This set-up the "indigenous community" of living organisms of the Sound and its ecosystems. [Indigenous](#) is defined by the Merriam-Webster dictionary as "produced, growing, living, or occurring naturally in a particular region or environment." When biologists think of naturally occurring native species, they generally think of those species that are native to a given region or ecosystem as a result of only natural processes, with no human involvement.

So, before 1620 (when the Pilgrims arrived in the Cape Cod Bay region) only Native American peoples occupied the Long Island Sound watershed. Even when they settled new areas of the watershed, it's unlikely they introduced any significant non-native species into the region. On the other hand, the arrival of European colonists and their use of trans-oceanic ships allowed for the introduction--both intentional and unplanned--of plants and animals from Europe, Africa, and Asia into the ports and communities of Long Island Sound and its watershed.

One example of an early [invasive species](#) to Long Island Sound is the green crab (*Carcinus maenas*). First reported in Long Island Sound in 1817, it was believed to have arrived in its larval stage either in sailing ship ballast water or probably via shipworm burrows in ship hulls. Since the green crab has been around for almost 200 years, it is now considered to be a native species. Ironically, it is being driven out of its rocky intertidal habitat by a new invader, the [Asian Shore Crab](#) (*Hemigrapsus sanguineus*)! First noticed in New Jersey in 1988, the crab is now well-established, with the species' range extending to New Hampshire, and their populations along the Connecticut coastline



Green Crab
Photo Credit: CT Sea Grant

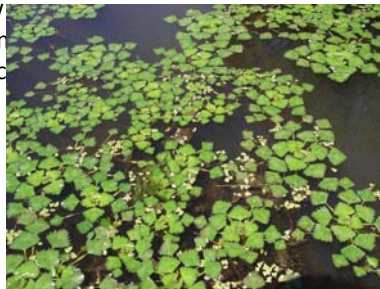


Asian Shore Crab
Photo Credit: CT Sea Grant

continuing to grow in size. They are believed to have arrived here in the ballast water of ocean-going ships. These crabs feed very aggressively on juvenile ribbed and blue mussels and are very territorial, forcing out green crabs from the intertidal zones.

Now, into the 20th and 21st centuries, new alien species

continue to move into Long Island Sound through human activities that are either negligent or ignorant of the dangers the new creatures can impose on the Long Island Sound ecosystem. Examples of some fairly recent freshwater aquatic species arrivals include [water chestnut](#) into the lower Connecticut River estuary and [rock snot](#) (*Didymosphenia geminata*, also known as Didymo) in the upper Connecticut River.



Water chestnut
Photo Credit: Harry Yamalis, CT DEEP

bleach solution (please don't rinse bleach directly into the water!), or a 5% dishwashing detergent solution. Absorbent materials such as clothes and felt soles on waders should be soaked for at least 40 minutes in very hot water (140°F), or 30 minutes in hot water (115°F) with 5% dishwashing detergent.

- For more information, please refer to the [CT DEEP's Didymo brochure](#).

[View past issues of Sound Outlook](#)

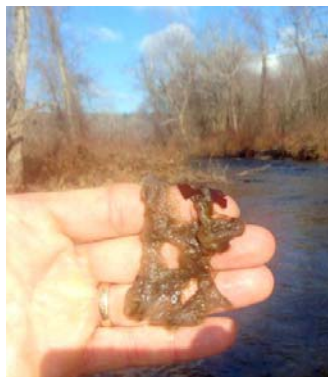
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Look Out For Upcoming Events!
July 6-9, 2012: [OpSail 2012](#) New London, Connecticut
Long Island Sound Study (LISS) [Committee Meetings](#)
Please be sure to check the [Calendar of Events](#) on DEEP's website

Legislative Update: All Aboard the Coastal Omnibus!

Coastal Legislation Passed During 2012 Session

The 2012 session of the Connecticut General Assembly saw the passage of a "coastal omnibus" bill ([Public Act 12-101](#), An Act Concerning the Coastal Management Act and Shoreline Flood and Erosion Control Structures) that affects the way Connecticut's coastal management program



Didymo (Rock Snot)
Photo Credit: CT DEEP

Didymo is a highly invasive algae that forms thick mats of material on the bottom of rivers and streams, smothering aquatic plants, insects, and mollusks, altering fish habitat and adversely impacting the food chain. Didymo feels like wet wool and is typically gray, white, or brown in color. It was found in the west branch of the Farmington River in 2011.

In Long Island Sound, several invasive species have arrived during the last 25 years. An example of a recent coastal alien invader is a new red seaweed known as *Grateloupia turuturu*, which was first discovered in Long Island Sound in 2004 at both Millstone Point in Waterford, Connecticut and Montauk Point, New York. According to a Connecticut Sea Grant [fact sheet](#), this invasive plant could cause a shift in the Sound's seaweed species if it displaces our native red alga Irish moss (*Chondrus crispus*) and possibly even other red algae. It appears to be competing with Irish moss for space, light, and nutrients, and has the ability to cover 100% of the habitat it invades.

In a regional effort to track and report these and other alien invaders throughout the region and prepare for future attacks, Connecticut has partnered with the other New England states and several federal agencies as part of the [National Invasive Species Information Center](#).

For more information about invasive species and what you can do to help control them, please visit Connecticut Sea Grant's webpages on the [invasive species of Long Island Sound](#) and the [CT DEEP's Angler's Guide](#).

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Grateloupia turuturu
Photo/Specimen Credit: Charles Yarish

will be implemented at the state and local levels. Many of these changes will go into effect on October 1, 2012.

Of particular note are:

- new provisions for "living shorelines";
- a new definition of "rise in sea level" and a corresponding requirement that the state Plan of Conservation and Development consider coastal erosion risks associated with a rise in sea level;
- a new "coastal jurisdiction line" that replaces the "high tide line" (the legislation includes the process for establishing this elevation for permit application purposes); and
- several provisions that affect the review of shoreline flood and erosion control structures.

The full complement of changes associated with Public Act 12-101 will be fleshed-out in the October 2012 issue of *Sound Outlook*. In the mean time, you can also refer to the [summary of changes](#) provided by the Office of Legislative Research.

NROC-ing the Boat: Regional Boater Survey Now Underway

Boaters in the northeast now have the chance to make their voices heard! The [Northeast Regional Ocean Council](#) (NROC) is currently partnering with the independent nonprofit organization SeaPlan, the University of Massachusetts, state coastal management programs, and the boating industry to conduct a survey of approximately 68,000 boaters in the region. Boaters are being asked to participate in this comprehensive survey to help determine where they go, what they do, and how they contribute to the local economy. Ultimately, the data gathered from the survey will help shape regional ocean policy and protect areas that are important to boaters. For more information or to participate in

the survey, please visit the [Northeast Boater Survey website](#).

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SPOTLIGHTED COASTAL ACCESS: New London Harbor -- Historic Gateway to the Thames River

Still 'holed-up' at home? Unsure whether it's safe to venture back out to explore Connecticut's shore after last fall and winter's storms wreaked havoc along sections of the coast (see the [October 2011 issue of Sound Outlook](#))? Well, rest assured, calmer seas prevail and a string of coastal public access sites near the mouth of New London Harbor in the City of New London are ready to reunite you with Connecticut's beautiful and culturally rich coastline.

The British provided no such welcoming invitation to Commodore Stephen Decatur when he was planning his escape through New London Harbor back in 1813 while in command of the U.S. Navy frigates *United States* and *Macedonian*. As referred to in this issue's cover story (Long Island Sound Invaded!), Decatur's ships had been holed-up in the Gales Ferry section of the Thames River during the War of 1812 by the British Royal Navy's blockade of New London harbor.

Thankfully, due to the foresight of municipal and state land use planners, nearly 1 mile of waterfront public access extends from the City of New London Pier and Waterfront Park on the north to Fort Trumbull State Park on the south. These improved waterfront walkways and unimproved pedestrian paths allow today's intrepid explorer to safely tour an historic and culturally significant section of New London's waterfront. Many of these sites will host the ships visiting [OpSail 2012](#).

These public access sites, connected through a series of footpaths, offer a wonderful opportunity to enjoy the west side of New London Harbor. From these pedestrian pathways, visitors to New London's waterfront will enjoy sweeping vistas of the lower Thames River's working-waterfront once under the control of the British Navy when Commodore Decatur was planning his escape through the British's blockade of the harbor.

However, similar to British's thwarting of Decatur's attempt to cross the harbor and sail to the safety of high seas, the waters of Shaw's Cove have been a barrier to connecting the two sections of this pedestrian pathway, outlined in red in the map shown here. Bridging this gap in the path at the mouth of Shaw Cove has stymied planners for years. But like Nutmeggers of the 19th century who ultimately prevailed in expelling hostile British ships from its coast during the War of 1812, municipal planners and their allies continue to draw battle plans on how to overcome the obstacle of Shaw Cove and unite these two discontinuous sections of pathways along New London's waterfront and connect the City's downtown waterfront district to the Fort Trumbull neighborhood (see Yale Urban Design Workshop [Fort Trumbull Vision presentation](#) for one of the latest plans).



-----Waterfront Trail connecting 4 coastal access sites along New London Harbor: [City Pier and Waterfront Park](#), [Shaw's Landing Condominiums](#), [Fort Trumbull Riverwalk](#), and [Fort Trumbull State Park](#)

Although Shaw's Cove currently prevents waterfront pedestrian passage from the downtown waterfront district to the Fort Trumbull neighborhood, there is still plenty to do and see along each section of these pathways. For example, be sure to bring bait and tackle when visiting City Pier and Fort Trumbull, as both sites provide excellent opportunities for anglers to hook a variety of saltwater species from the deep water off these piers. Those interested in exploring the arts

and cultural opportunities of the area will appreciate the public art, including sculpture, that line parts of the walkway from City Pier to Shaw's Landing. From Shaw's Landing, visitors can easily access the shops, restaurants and cultural institutions on nearby Bank Street, many of which provide excellent examples of popular 19th century architecture that remind visitors that New London was also an important and bustling center of maritime trade in an earlier era. For example, the [Custom House Maritime Museum](#) exhibits provide an outstanding opportunity to explore New London's fascinating maritime past including its own part in the saga of the slave ship *Amistad*.

And of course, be sure to tour [Fort Trumbull State Park](#), site of colonial and U.S. armaments from the 18th to the 20th century whose own visitor center is ready to remind you of the role this site has played in protecting the entrance to New London Harbor from unwelcome visitors.

For a complete map showing local pedestrian routes of interest and local arts, cultural, heritage and outdoor attractions, visit the [New London Main Street Website](#) to plan your walking route away from the shore.

However you choose to spend your time enjoying the Whaling City's waterfront, you won't be disappointed that you left your home's confines to spend a day exploring an intriguing and historically important section of Connecticut's shore. Begin planning your exploration of New London's waterfront trail system today!

More information about accessing New London Harbor's waterfront trails can be found in the [Connecticut Coastal Access Guide](#).

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Purchase of a LIS License Plate
Supports the LIS Fund



As of February 29, 2012
Plate Sold: 149,225
Funds Raised: More than \$5.2 million
Projects Funded: 331 (including Ecosystem Management projects)

The LIS Fund supports projects in the areas of education, public access to the shoreline, habitat restoration, and research.

For information on ordering a
Long Island Sound License Plate,
 call 1-800-CT-SOUND.

Connecticut's Coastline is Under Attack! Living Shorelines Can Help Fight Back Against Erosion

Connecticut's shoreline residents have staved off invasions for hundreds of years. During the War of 1812, the residents of Essex endured a British invasion that, unfortunately, didn't include four adorable, mop-topped musicians from Liverpool (although similar amounts of screaming most likely occurred when British sailors stole residents' rum).

Two hundred years later, a dangerous adversary even more devastating and ruinous than the Blue Coats of the British Royal Navy continues to attack Connecticut's shores. That adversary is coastal erosion, which may ultimately wreak more havoc on coastal residents than a ruthless enemy armada lurking offshore. Coupled with more-intense coastal storms (remember Tropical Storm Irene in October 2011?) and rising sea levels, erosion impacts are likely to become even more severe.

When it comes to staving-off this modern-day invasion, "living shorelines" can be the ally that waterfront property owners need to fight back. Living shorelines are techniques that use a variety of organic materials and some structural elements to protect property from erosion. In addition to creating and restoring dunes and vegetated slopes at the water's edge, these techniques include: planting or restoring tidal wetland grasses and shrubs; planting submerged vegetation like eelgrass; installing logs made of sand, coconut, and/or other natural fibers; and even re-nourishing a beach with new sand. Be sure to use [native plants](#) in your living shorelines to ward off additional

invasions!

The intent of using living shorelines is to reduce our reliance on man-made structures like seawalls and better mimic nature's approach to shoreline protection. In addition to buffering buildings and property from the sea, and the natural beauty they offer, living shorelines provide many other benefits as well.

For exam
dune:
plant
slope
tidal
wetla
and
eelgra
beds
are



important habitats for coastal wildlife. A gently sloping hill planted with native vegetation will act as a water pollution filter for runoff after it rains. Sand filled sock logs used as shoreline stabilization Photo Credit: David Roach, All Habitat Services, LLC



Former Remington Arms Gun Club, Stratford Eroded Shoreline
Photo Credit: David Roach, All Habitat Services, LLC

And, as we learned at Hammonasset Beach State Park after Tropical Storm Irene, it's cheaper to replace a sand dune and dune grass after storm damage than it is to replace a seawall!

Thirty years of coastal management in Connecticut has taught us that the best way to fight erosion is with proper site planning. Locating homes and other buildings as far back from the water as possible, away from the most erosion-prone part of the property is the best approach.

However, Connecticut's historic waterfront development patterns, established well before the War of 1812, have already placed many private residences in harm's way. And in many instances, waterfront residents have unwittingly helped the enemy--erosion--by building seawalls and other shoreline structures that ultimately act more like traitors than allies. Residents might be duped into believing that seawalls and shoreline armoring will protect them and their property, but such structures can actually worsen erosion by reflecting waves away rather than absorbing their energy, which causes scour that can undermine the seawall itself.

Ironically, seawalls can also increase erosion damage from back-flooding. Tropical Storm Irene showed us how flood waters can over-top seawalls and become trapped behind them, causing a "soup-bowl" effect. That water then erodes land behind the seawall as it seeks an escape route.

To encourage coastal property owners to use living shorelines, the Connecticut legislature passed [Public Act 12-101](#) which, in part, excludes living shoreline practices from the definition of a "shoreline flood and erosion control structure." That means that there is no need to apply for municipal coastal site plan approval to install a living shoreline! And since CT DEEP encourages their use, obtaining state approval to install these techniques if proposed in the state's jurisdiction will be easier than fighting off the British Royal Navy!



Erosion behind a seawall in Madison resulting

The coastal area is indeed a beautiful place to live, but it is also a very dynamic and hazardous place. Living shorelines can be the "Isaac Hull" that waterfront property owners need to help them sail to victory over

erosion.

from Tropical Storm Irene

We encourage you to visit the National Oceanic and Atmospheric Administration's [living shorelines website](#) and the CT DEEP's [shoreline protection webpage](#) for more information. Examples of "before and after" living shoreline installations can be found at the College of William and Mary's [Center for Coastal Resources Management photo gallery](#).

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Climate Change Update: Are They Invaders, or "Climate Refugees"?

Climate change is already causing some notable changes in Long Island Sound. Warmer air and water temperatures cause habitats to shift, which causes their associated species to move as well. This brings up a very important question: As habitat and associated species shift with climate, does that make them invasive, or are they the seed species of tomorrow?

CT DEEP is working with the state of New York, Connecticut Sea Grant, and the EPA Long Island Sound Study through the [Sentinel Monitoring for Climate Change in Long Island Sound](#) project to track existing and future changes in species, systems, and parameters due to climate-related changes. The [sentinel monitoring strategy](#) has identified some of the major parameter changes (e.g., temperature and chemistry) as well as numerous indicators of change (e.g., loss of lobster, and changes in finfish distribution and abundance). Many of the indicators are related to vulnerable and invasive species. As many native species are stressed, their numbers decline, and invasive species that are more aggressive and better-suited can gain a foothold. This is a concern for Eastern Oysters and other desirable shellfish. By collecting and analyzing historic and current data, scientists and managers are working to determine appropriate adaptation strategies for ecosystems that are unique to Long Island Sound.

The sentinel monitoring strategy also projects that the distribution and abundance of invasive species will likely increase, because changes in temperature and salinity may give these species an edge in competing with native species. In fact, changes in the finfish community are already being observed. As water temperatures in the Sound increase, warm-adapted fish species are moving northward, potentially replacing cold-adapted species in Long Island Sound. As these new species become more numerous, should they be considered invasives, or just "climate refugees"?

We also have many summer visitors to Long Island Sound that enjoy the warmer water, including many species of jellyfish. In the summer of 2010, there were reported [sightings of ocean sunfish](#) (*Mola mola*) in Long Island Sound. Since climate change is causing a long-term shift in the system, it is difficult to decide if the arrival of this and other warm-water fish is a fluke or a real permanent trend. As another summer season upon us, keep your eyes peeled for additional potential climate refugees in Long Island Sound.

For more information on climate change, contact [Jennifer Pagach](#) at 860-424-3295.

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